In the Claims

1.- 11 (Cancelled)

12. (Currently amended) A purified mutant calcium-binding protein comprising an amino acid sequence as set forth in SEQ ID NO: 2 and having a conservative substitution at residue 127 or 172 ~~of SEQ ID NO: 2~~,

13. – 22. (Cancelled)

23. (Currently amended) An *in vitro* method of reducing apoptosis in neuronal cells relative to apoptosis caused by presenilin 2 comprising:
administering to the neuronal cells a mutated calcium-binding protein, wherein the mutated calcium-binding protein comprises a replacement at residue 127 ~~at least one substitution in the amino acid residues in the calcium binding EF hands~~ of SEQ ID NO: 2, and wherein ~~the calcium binding EF hands include amino acid residues at positions 116 to 128 and 161 to 173 of SEQ ID NO: 2 and wherein the substitution is at residue 127~~. an acidic residue is replaced with its amine counterpart.

24. (Currently amended) An *in vitro* method to reduce induced apoptosis relative to apoptosis caused by presenilin 2, the method comprising:

administering an effective amount of the mutant calcium-binding protein comprising the amino acid sequence as set forth in SEQ ID NO: 2, ~~wherein the mutant calcium-binding protein comprises~~ having a conservative amino acid substitution at position 172 ~~of SEQ ID NO: 2~~.

25. (Currently amended) An *in vitro* method to reduce induced apoptosis relative to apoptosis caused by presenilin 2 alone, the method comprising:

contacting cells presenilin 2 ~~with an effective amount of the mutant calcium-binding protein~~ comprising an amino acid sequence as set forth in SEQ ID NO: 1 with ~~the~~ a mutated calcium-binding protein~~, comprising a substitution of at least one amino acid residue in the calcium-binding EF hands~~ of SEQ ID NO: 2, and wherein the calcium-binding hands includes a

conservative amino acid ~~residues at positions 116 to 128 and 161 to 173 of SEQ ID NO: 2, and wherein the~~ substitution ~~is~~ at residue 127 or 172.

26. (Cancelled)

27. (Previously presented) The purified mutant calcium-binding protein according to claim 12, wherein the mutation comprises replacement of an acidic residue with its amine counterpart.

28. (Previously presented) The purified mutant calcium-binding protein according to claim 27, wherein the substitution of amino acid residue at position 127.

29. (Previously presented) The purified mutant calcium-binding protein according to claim 28, further comprising substitutions at amino acid residues 2 and 172.

30. – 32. (Cancelled)

33. (Currently amended) A purified mutant calcium-binding protein comprising an amino acid sequence as set forth in SEQ ID NO: 2 and having a substitution at residue 172 ~~of at least one amino acid residue in at least one calcium-binding EF-hand of SEQ ID NO: 2,~~ and wherein the substitution ~~mutation~~ comprises replacement of an acidic residue with its amine counterpart ~~, and wherein the replacement is at residue 172~~.

34. (Currently amended) An *in vitro* method to reduce induced apoptosis relative to apoptosis caused by presenilin 2, the method comprising:

contacting cells with an effective amount of the mutant calcium-binding protein comprising an amino acid sequence as set forth in SEQ ID NO: 1 with the mutated calcium-binding protein, wherein the mutated calcium-binding protein comprises a substitution of ~~at least one~~ an amino acid residue in the calcium-binding EF-hands of SEQ ID NO: 2, and wherein the substitution comprises replacement of an acidic residue with its amine counterpart at residue 127.

35. (Currently amended) A purified mutant calcium-binding protein comprising an amino acid sequence as set forth in SEQ ID NO: 2 and having a ~~substitution of at least one amino acid residue in at least one calcium-binding EF-hand of SEQ ID NO: 2, and wherein the mutation~~

~~comprises~~ replacement of an acidic residue with its amine counterpart, wherein the replacement is at residue 127 ~~or 172~~.